

# Understanding forced internal displacement in Ukraine: insights and lessons for today's crises

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**Abstract** The contribution of this paper is threefold: first, it accounts for the problem of Ukraine's forced internal displacement, following the Russian occupation of the Crimea and Donbas regions in 2014; second, this study applies a number of quantitative research methods to provide new insights into the way that individual and destination characteristics of the internally displaced people (IDPs) impact upon their destination preferences; finally, it draws four key policy lessons for dealing with today's worst humanitarian catastrophe in Europe since 1945. These lessons focus on the individual characteristics of forced migrants for understanding displacement patterns; and the need for full restoration of legitimate democratic government at home as the necessary condition for return. They also highlight that in the extraordinary circumstances of large-scale warfare, life-saving action takes precedence over any other motivations; and the host communities' perceived sympathy towards the forced migrants' home nation ultimately determines the choice of settlement.

**Keywords:** forced displacement, migration, geography, gravity model, Ukraine, Crimea, Donbas

**JEL classification:** C3, D1, D9, F2, F5, J1, J6, R1, R2

## I. Introduction

On 20 February 2014, President of Russia Vladimir Putin ordered the occupation of Ukraine's Crimea by covert special operations troops stationed at a Russian naval base on the peninsula. Capitalizing on domestic turmoil in Ukraine, triggered by a popular uprising against the regime of President Viktor Yanukovych, the Kremlin had moved swiftly, *de facto* annexing Crimea within a month. In early April 2014, Russian

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troops moved into Donetska and Luhanska *oblasts* (provinces) of the Ukrainian Donbas region, eventually provoking an armed response from the Ukrainian government. During the following 10 months, a brutal Russo-Ukrainian war ravaged the Donbas, resulting in the forced displacement of millions of people. As a result, Ukraine had soon become the tenth largest country in the world in terms of the number of internally displaced persons (IDPs): on a par with Afghanistan, and preceded by South Sudan, Sudan, Yemen, Somalia, Iraq, the Democratic Republic of Congo, Syria, and Colombia. Furthermore, in the late 2010s, even before the second, full-scale Russian invasion of Ukraine on 24 February 2022, Ukraine had already become Europe's largest humanitarian catastrophe since the Yugoslav Wars of the 1990s, with Ukrainians accounting for 85 per cent of all internally displaced people in Europe (UNHCR, 2018).

Forced displacement—whether internal or cross-border—is a life-changing, often tragic, experience; one that can have a lasting impact on individuals and their successive generations. It also has multiple impacts on the hosting populations and their communities, with equally lasting changes in life outcomes of the hosts and their descendants (Ruiz and Vargas-Silva, 2018a). These impacts are even more pronounced in the case of protracted displacement, and not all individuals and communities are equally affected. There are likely differences across many place-based characteristics and personal dimensions, including age, sex, and occupational background of individuals, as well as the industrial base and economic activities of receiving host communities, cities, and regions. The social sciences' literature on the impacts of forced displacement tends to emphasize the economics of the phenomenon and struggles to separate the impact of war and violence from the impact of forced migration (Ruiz and Vargas-Silva, 2015, 2016, 2018b; Fransen *et al.*, 2017). Forced displacement policies also often overlook differences between places that people fled from and the places they took refuge in. Moreover, in specific contexts, when the internally displaced population is not random, i.e. when it is possible for individuals to 'opt in' to or out of forced migration, the section of the population which experiences forced migration could be different from those who do not migrate. These heterogeneities in the population and in other place-based characteristics are key considerations that public policies need to take into account to generate more effective support for displaced populations in the receiving societies (see Ruiz and Vargas-Silva, 2013).

This paper analyses individual and place-based heterogeneities in the context of Ukraine as, since 2014, Europe's largest middle-income country has been faced with the continent's most pressing humanitarian crisis. To do so, the paper applies several quantitative research methods, including descriptive statistics, mapping, and gravity modelling—to capture geo-space characteristics. The paper proceeds with a brief introduction into the origins of Ukraine's forced internal displacement past 2014 and its main features, before unpacking the data and methods used. Consequently, the paper analyses the results and interprets its major findings, before offering a discussion focused on key policy conclusions. It is contended that better understanding the impact of individual and destination characteristics on the first wave of Ukrainian IDPs, during the 8-year period between February 2014 and February 2022, should help one tackle similar level crises of forced displacement. In addition, the policy lessons drawn from the first wave of Ukraine's IDP crisis may focus the stakeholders' response to the

current second wave, following the most recent full-scale Russian invasion of Ukraine on 24 February 2022.

## II. The Russian-Ukrainian War of 2014: the origins of forced internal displacement

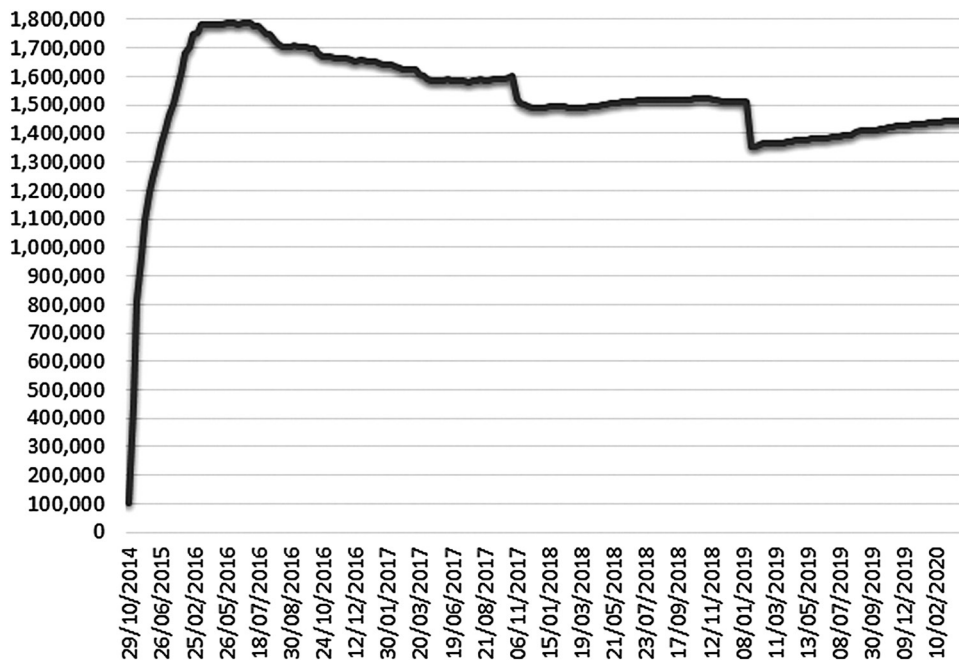
In February 2014, following a violent overthrow of President Viktor Yanukovich and amidst chaotic scenes on the streets of the Ukrainian capital, the Russian Army *de facto* seized the territory of Ukraine's Autonomous Republic of Crimea (*Avtonomna Respublika Krym*) and the City of Sevastopol (*misto Sevastopol*) (UN, 2014, 2019). Soon afterwards, Moscow-backed militants began seizing regional government buildings and local police stations across eastern Ukraine. A brutal armed conflict between the Ukrainian military and Russian/pro-Russian militants then ensued. According to a very conservative estimate by the Office of the United Nations High Commissioner for Human Rights (OHCHR, 2019), over the following 8 years, the war in eastern Ukraine resulted in well over 43,000 conflict-related casualties.

Around 3.3 million people fled their homes at the height of the war in the Ukrainian Donbas, a historical region comprising Donetsk and Luhanska *oblasts*, two adjacent provinces centred on the cities of Donetsk and Luhansk (Mykhnenko, 2011). Forced displacement emptied Donbas cities, towns, and villages of people (UNOCHA, 2015). Overall, the number of Ukraine's internally displaced persons (IDPs) officially registered with the Ministry of Social Policy topped 1,790,267 on 30 June 2016, see Figure 1, while the number of forcibly displaced Ukrainians seeking refuge in neighbouring countries approached 1.5 million. Of the remaining Donbas inhabitants, between two and three million remained in the non-government-controlled areas, with another 600,000 being caught in the so-called grey zone, living mostly underground in basements and improvised bunkers, within 5 kilometres on both sides along the 457-kilometre frontline, with no water, heating, electricity, access to healthcare, shops, jobs, or social services.

In addition to tens of thousands of deaths and injuries, and millions of people seeking refuge away from the theatre of war, the economic impact of the armed conflict on the Donbas has been truly devastating: tens of thousands of enterprises were closed, looted, dismantled, and smuggled to Russia for scrap; countless homes, roads, bridges, railways, and pipelines destroyed; coalmines flooded; farmland littered with explosive remnants of war, unexploded ordnance, and land mines. Indeed, the Donbas became the third most mine-contaminated stretch of land in the world, covering around 16,000 square kilometres (UNOCHA, 2017). Overall, the first stage of the Russo-Ukrainian war (20 February 2014 to 23 February 2022) devastated the Donbas economically, with the regional gross domestic product (GDP) declining by 59.3 per cent in constant local currency prices (or by 76.0 per cent in foreign exchange terms), and the Donbas economy permanently losing almost \$21 billion worth of output in total. Over the first 5 years of the conflict, the total permanent asset value loss in the region amounted to \$104.645 billion (in 2013 prices; see Mykhnenko, 2020).

As a result of the ongoing armed conflict, Ukraine's IDP crisis has become a protracted affair. As Figure 2 shows, 4 years past the IDP peak figure of 1,790,267 in

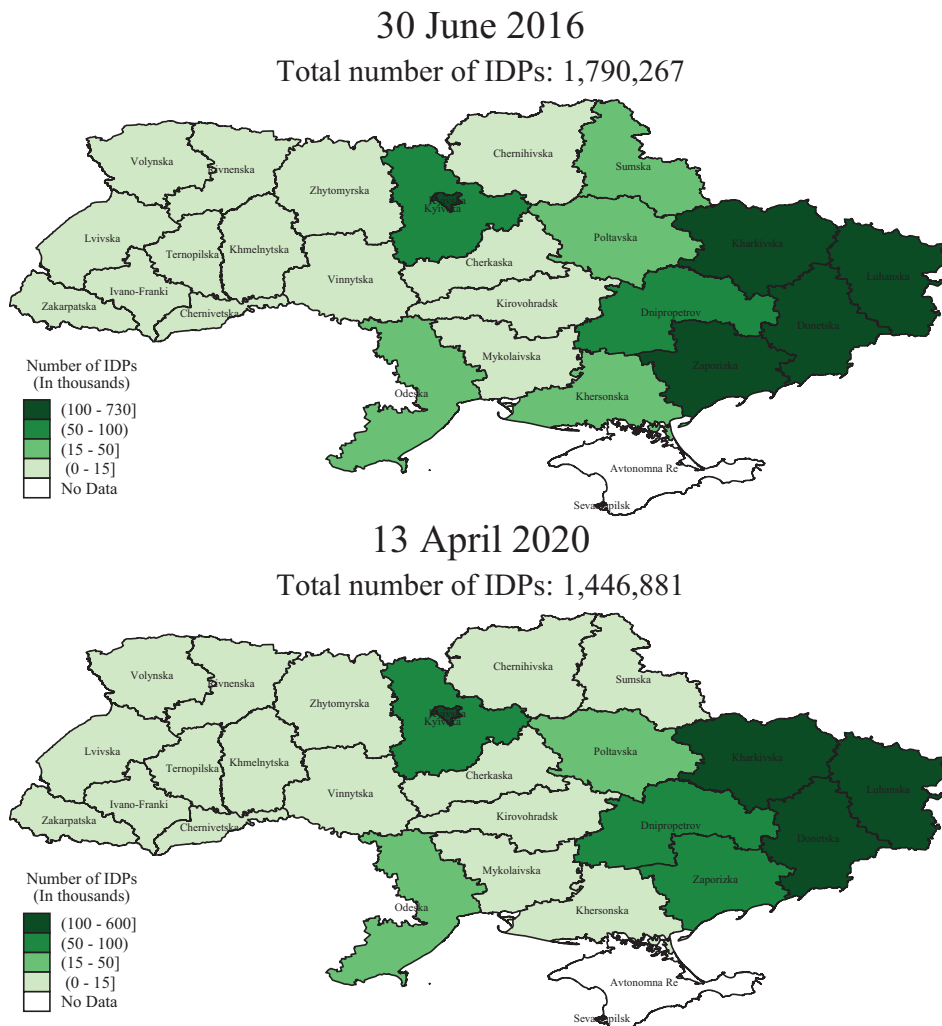
**Figure 1:** Ukraine's internally displaced population, official registrations: 29 October 2014 to 13 April 2020.



Source: UMSP (2016–22).

mid-2016, the total registered number of the forcefully displaced dropped by less than one-fifth, with well over 90 per cent of IDPs continuously residing in just eight regions, including the government-controlled areas of Donetsk and Luhansk, Kyiv and Kyivska, Kharkivska, Dnipropetrovska, Zaporizka, and Odeska. One must stress that the situation in the Russian-occupied Crimea, including Sevastopol, was markedly different from the Donbas due to the absence of an open armed conflict. Nonetheless, the situation of human rights on the peninsula gradually deteriorated: the United Nations Resolutions 71/205 (adopted by the General Assembly on 19 December 2016), 73/194 (17 December 2018), and 73/263 (22 December 2018) provide a long list of serious violations and abuses committed by the Russian authorities against Crimean residents. These include extrajudicial killings, abductions, enforced disappearances, politically motivated prosecutions, discrimination, harassment, intimidation, violence, arbitrary detentions, torture, and ill-treatment of detainees and their transfer from Crimea to the Russian Federation, as well as reported abuses of other fundamental freedoms, including the freedoms of expression, religion or belief, and association, and the right to peaceful assembly. However, unlike the indiscriminate shelling of civilian areas of the Donbas, human rights violations and abuses in the Crimea targeted Ukrainian political activists and the Crimean Tatar minority. Thus, investigating, comparing, and contrasting the reasons behind the Crimean and Donbas IDP movements in the early years of the Russian-Ukrainian war should aid one's understanding of heterogeneous forced migration patterns.



**Figure 2:** Ukraine's internally displaced population by region, 30 June 2016 and 13 April 2020.

Source: Ukraine's Ministry of Social Policy.

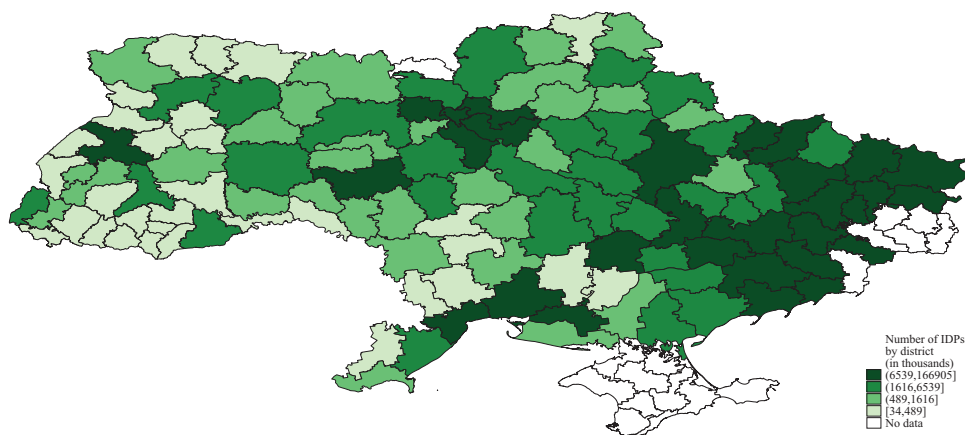
### III. The second wave of Ukraine's forced displacement: 24 February 2022 onwards

The Russian Federation launched a full-scale military offensive against Ukraine on 24 February 2022. This dramatic escalation of the ongoing Russo-Ukrainian conflict has already caused tens of thousands of civilian casualties and destruction of civilian infrastructure, forcing people to flee their homes seeking safety, protection, and assistance. By 28 April 2022, according to the UN Refugee Agency, the second wave of Ukraine's forced displacement has led to 5,372,854 refugees fleeing the country, making it the fastest growing refugee crisis since the Second World War (UNHCR, 2022a). A further 7.7 million people have been displaced

internally within Ukraine, thus taking the total figure of forced displacement during the first 63 days of the new phase of the war to 13 million—almost a third of the nation's population (UNHCR, 2022b). As confirmed by the United Nations High Commissioner for Refugees, the vast majority of Ukrainian refugees have fled westwards and south-west to Poland (2,968,716 people), Romania (801,453), Hungary (507,849), Moldova (439,290), and Slovakia (363,940). At the same time, 24,857 people have fled to Belarus, and another 641,752 were deported by the Russian authorities from Ukraine's temporarily occupied territories to various remote regions across Russia. Around 90 per cent of these Ukrainian refugees are female, as, following the introduction of martial law in Ukraine, males aged 18–60 have been barred from leaving the country.

The Russian invasion has caused the world's fastest growing displacement crisis since the Second World War (UNHCR, 2022b). Given the massive and rapid nature of forced displacement within and outside the country after 24 February 2022, the centralized IDP registration system (administered by the Ministry of Social Policy) in place since 2014 has not been able to capture the new IDPs in the country adding to the already existing IDPs within Ukraine. To a large extent, the previous IDPs from the Donbas and Crimea have now been forcefully displaced for the second time in 8 years. The preliminary data indicate the vast majority of Ukraine's current internally displaced population have moved to western-most regions of Lvivska, Zakarpatska, Ivano-Frankivska, and Chernivetska, bordering Poland, Slovakia, Hungary, Romania, and Moldova (UNOCHA *et al.*, 2022). The new geographical distribution of Ukrainian IDPs is, thus, radically different from the previous pre-2022 one, when the majority of IDPs resettled in the eastern parts of the country. Figure 3 provides a more detailed breakdown by sub-regional local authority districts, showing a high concentration of the first wave IDPs in the districts adjacent or nearest to the Russian-occupied Crimea and parts of the Donbas, in addition to clusters of IDPs in and around the capital city region of

**Figure 3:** Ukraine's registered IDP population by local authority district (*raion*), as of 13 April 2020.



Source: UMSP (2020).

Kyiv, the city of Vinnytsia in central Ukraine, and Lviv in the west. Although this paper is limited to the analysis of the first wave of Ukraine's IDP crisis, in the concluding section we offer a broader discussion with some relevant policy lessons for the current crisis.

## IV. Data and methods

In addition to the descriptive statistical and mapping analysis offered above, the other key method used in this paper involves gravity modelling (Anderson, 2011). Gravity models typically draw on Isaac Newton's formula for gravity for the analysis of movement between places, stipulating the pull of gravity being positively related to the size of the object and inversely related to the distance between objects (Beine *et al.*, 2016). In geography, gravity models are associated with Waldo Tobler's (1970, p. 236) first law of geography: 'everything is related to everything else, but near things are more related than distant things.' Using Tobler's First Law as a core principle, spatial economic analysis and economic geography have developed sophisticated techniques for extracting explanatory and predictive power from geo-spaces in relation to traffic flows, migration, and trade. Basic gravity models state that economic interactions between two geographically defined entities are proportional to the size of these entities and inversely related to the distance between them (McFadden, 1974; Anderson, 1979). The impact of distance is strong and not diminishing over time. Extended gravity models incorporate borders and contiguity effects and more sophisticated interaction cost measures (Anderson and van Wincoop, 2003, 2004). The detailed gravity model estimation applied in this paper is presented in Online Appendix 1. Two types of variables are used in this analysis: ones that vary across individual IDPs and ones that vary across choice of destination.

### (i) Individual-specific data

Data on the individual characteristics of internally displaced persons (IDPs) is sourced from the Ukrainian Ministry of Social Policy. Data are available for 1,148,183 IDPs, as recorded in the national *Unified IDP Register* as of 15 March 2017. The data were collected as part of the Ukrainian government's efforts to register IDPs as they arrived in unaffected regions. The data are given in two discrete choice variables. The first, 'sex', is a binary variable which describes whether an IDP is male or female. The second, 'characteristics', has four discrete, mutually exclusive, categories describing whether an individual is 'working age', 'a child', 'disabled', or 'a pensioner'. The Ministry of Social Policy definitions of the four categories are applied here. As the four categories are mutually exclusive, 'working age' are considered 'able-bodied', i.e. being of working age and capacity. In addition to these variables, there are variables indicating whether the IDP originated from the Crimea, including both the Autonomous Republic of Crimea (*Avtonomna Respublika Krym*) and The City of Sevastopol (*misto Sevastopol*), or from Donetsk and Luhansk *oblasts* (i.e. the two Donbas provinces), and which destination they travelled to (were registered in). According to the Unified IDP Register, 60.5 per

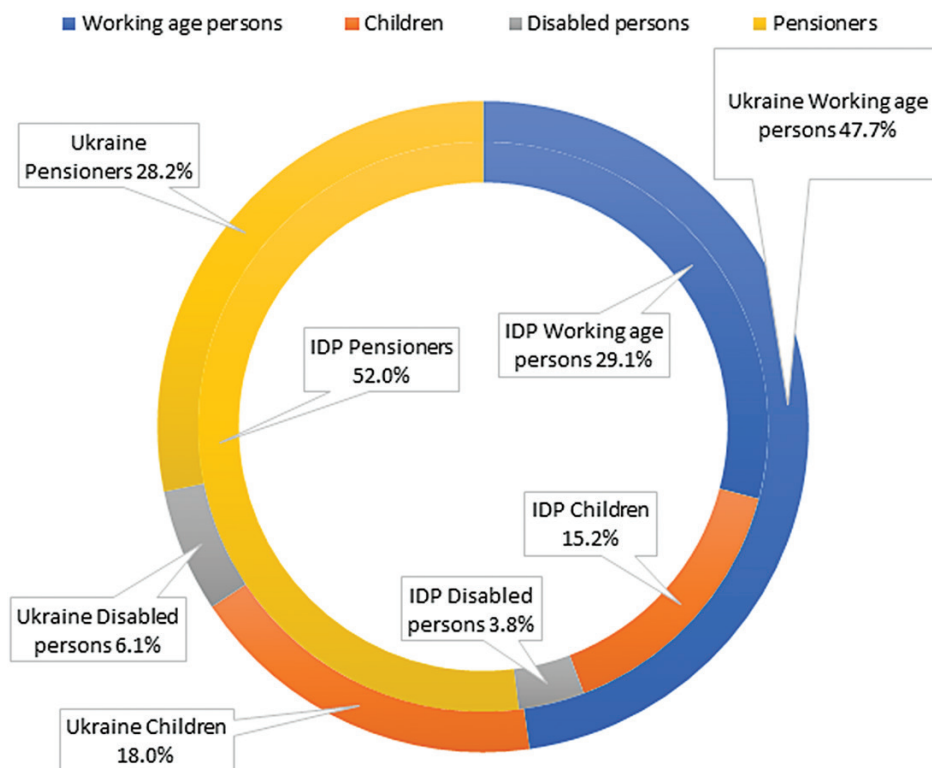
cent of IDPs have originated from Donetsk, 37.5 per cent from Luhanska, and 2.0 per cent were displaced from the AR Krym and Sevastopol, combined.

Figure 4 compares and contrasts Ukraine's internally displaced population with its general population. To highlight, sex and demographic compositions of the first-wave Ukrainian IDPs are heavily skewed towards women (comprising 60 per cent of the IDP population versus 54 per cent across Ukraine, on average) and non-working-age pensioners (52 per cent versus 28 per cent across Ukraine). The share of working-age people among Ukrainian IDPs accounts for just 29 per cent in total versus the Ukraine average of 48 per cent. The biggest difference between Donbas- and Crimean-origin IDPs lies in the share of pensioners, who account for 52 per cent of the former and only 9 per cent of the latter cohorts.

In terms of destination, the 25 regions of Ukraine to which the IDPs from the Russian-occupied Crimea and non-government-controlled areas of the Donbas could travel are illustrated in Figure 5.

The data obtained from the Ministry of Social Policy's Unified IDP Register comes formatted in terms of the count of IDPs from an origin location that were registered at a destination who are male or female and the count who fell into each different characteristic category. However, in order for the data to be used in the modelling process they

**Figure 4:** Ukraine's forced displacement, first wave: general and IDP population breakdown by basic labour-market cohorts, 15 March 2017.



Source: UMSP (2017).

**Figure 5:** IDP locations in the data by region (*oblast/misto*).

must be formatted at the level of individual observation. As the true individual level data describing the interaction between ‘sex’ and ‘characteristics’ data cannot be recovered from the overlying count level data, reconstructed data must be generated by making an assumption about the variables’ distribution. It is assumed that the sex and characteristics variables are independent of each other so that the proportion of each sex going to each location from an origin is constant across characteristics. For example, if 40 per cent of individuals that migrated to a region from the Crimea are ‘able-bodied and working age’, it is assumed that this proportion holds for both men and women. This assumption of independence is considered reliable in the absence of a clear reason why either sex is more likely to have any of possible characteristics and is adopted to avoid the need to choose a particular pattern of interaction that might affect the results. Relying on an assumption to reconstruct the individual-level data does, however, make it impossible to test for interactive effects between the variables in the modelling process.

## (ii) Destination-specific data and aggregation

In addition to the individual-specific data, destination-specific data are obtained on the distance from the origin location, the political views of the destination, the GDP of the destination, its population size, ethno-linguistic composition, and the degree to which a region welcomes IDPs. Distance is calculated as the distance from the origin location to destination location (with the regional capital cities being used as origin and destination locations respectively) by road, measured in both kilometres and minutes’ travel-time. Distance in minutes is calculated as the expected time to travel between regional capitals projected by *Google Maps* before the armed conflict-generated travel disruption (e.g. roadblocks and check points). For the two Donbas regions, the distance from the Russian-occupied Donetsk to the government-controlled Mariupol is used in the case of Donetsk IDPs, and the distance from the Russian-occupied Luhansk to the government-controlled Sievierodonetsk is used in the case of Luhansk IDPs. For IDP flows to Kyivska, the distance to Bila Tserkva, the region’s largest city after Kyiv, is used to differentiate between the two regional destinations of Kyivska *oblast* and the city of Kyiv.

The political leaning of the region, whether it is supportive or opposed to Russia's influence, is likely to be an important factor in the decision of where to migrate to, away from the Russian intervention. To account for this, pro-Russian sentiment is proxied by a binary dummy variable indicating whether the region voted for Viktor Yanukovich, the pro-Russian candidate in the preceding Yanukovich versus Yulia Tymoshenko 2010 presidential elections (the 7 February 2010 run-off vote; [TsVK, 2010](#)). The destination's ethno-linguistic composition is assessed on the basis of self-declared mother tongue characteristics, as recorded in the last available All-Ukrainian Population Census of 5 December 2001 ([Derzhkomstat, 2004](#)). In addition, the size of the regional economies by output and population are the most typical variables used in gravity modelling, combined with distance measures. Data on the destination's GDP (by region in local currency, 2013) and population (by region, mid-year 2013) are sourced from the annual *Regions of Ukraine* statistical databases ([USSS, 2022](#)).

Finally, another important factor is likely to be whether a region is welcoming to IDPs. This could either be in terms of programmes they run to settle the IDPs or in terms of the societal attitude towards the IDPs. This is a difficult factor to measure directly and, as such, a variable is used that rates the presence of information to assist IDPs on the websites of the regional governments, indexed between 0 and 10, with 0 = no IDP assistance information available, and 10 = a comprehensive and customer-friendly IDP information package being available on the regional government's landing webpage. This assumes that if a region is supportive of IDPs, it will promote its activities to help them more, and if it does not support them, it will promote IDP-relevant activities less.

Due to the large computational demand required to estimate the model for 25 alternative destinations, for up to 1,148,183 individuals, the data are aggregated into a 9-destination aggregation, based on the traditional economic geography division of Ukraine's landmass (see [Figure 6](#)).

**Figure 6:** Nine-destination aggregation by Ukrainian economic geography region (constituting *oblast/misto*).





For this, the individual-level data are merely summed across the more aggregated regions. This is also the case for the ‘support of Russia’ dummy’s underlying votes, Russian as a mother tongue, regional GDPs, and regional populations. For distance, measured both in kilometres and minutes by car, a weighted average is calculated which weights the distance to each constituent region by the number of IDPs that migrate there.

## V. Discussion of the results

This section reports the key findings—with the full estimated results provided in [Online Appendix 2](#) (see [Tables A.1 to A.16](#)).

### (i) The impact of individuals’ characteristics

Looking at the results for the impact of IDPs’ characteristics, a fairly clear picture can be drawn. This can be seen by comparing the impact that group membership had on the likelihood that IDPs registered in each region (see [Online Appendix 2, Tables A.1–A.2](#)). The regression results estimate how membership of different groups impacted the likelihood that the IDPs from the Crimea and the Donbas would choose to flee to a certain region. They are expressed as the impact of group membership relative to able-bodied male adults. Looking across the regional results, a striking feature is the extent to which results displayed statistical significance: for Donbas origin IDPs, 32 out of 36 parameters were statistically significant at the 0.001 level (i.e. demonstrating a 99 per cent confidence), with another parameter being statistically significant at a 0.05 level, and only two parameters not showing any statistical significance. This gives us strong reason to believe that Ukrainian IDPs—all the Donbas origin ones and the Crimea origin pensioners and children—made systematic choices about their chosen destination, based upon their individual characteristics. For Crimean IDPs, out of 36 estimated parameters, one for each group in each region, 18 were statistically significant from 0 at *at least* a 0.05 level (i.e. demonstrating a 95 per cent confidence), with particularly strong results among the pensioner and child categories. Other Crimea origin IDP results did not display a clear story, showing a much less consistent way of choosing between destination regions. This reflected the different—ideological repression rather than a war threat—nature of the disruption causing the displacement from the Crimea. Among the Donbas IDPs, the behaviour of all the studied groups clearly showed preference towards the government-controlled areas of the Donbas as the top destination. Looking at Donbas origin pensioner IDPs, they were systematically less likely than able-bodied male adults to locate to any region but the Donbas itself. At the same time, the Donbas origin disabled and children IDPs were also inclined to flee to the neighbouring Dnieper and Central regions, while adult female IDPs, in addition to the Donbas itself, tended to move towards the Capital and Black Sea Coast regions. By contrast, being a female IDP from the Crimea was found to be an insignificant factor in determining one’s pattern of displacement. Overall, the first set of results is suggestive that, as a group, Donbas origin pensioners were less willing or able to move at the first

stages of the Russo-Ukrainian war, and, alternatively, were more willing to stay near or not far from the original location, than the other groups of IDPs. The Donbas origin disabled IDPs were the second group which travelled least. The fact that these two groups were likely to face far greater mobility issues than able-bodied female and children suggests that mobility issues had been one of the main drivers of IDPs' location decision to leave the region of origin.

The contrast between regions clearly demonstrates that IDPs' decision to stay in the Donbas region or to relocate to other regions differed systematically based on their characteristics. The fact that the contrast is so stark, with only a minor exception to its rule, is heavily suggestive that the observed pattern of migration was a result of a systematic reaction by that group to the Russian invasion of the region. Conversely, if the results did not show a systematic difference between the Donbas and other regions, the conclusion that the observed migration patterns were driven by an event localized to the Donbas could not be made so easily. These results are supported by theoretical interpretations of possible costs of travelling to destinations or of utility of being located in a certain region. For example, the fact that pensioner, disabled, children, and female IDPs were more likely to be re-located within the Donbas region meets with the prior expectation that they would be less able to migrate, for a given distance and possible military threat. The other practical reason was the need for people staying in the non-government-controlled areas of the Donbas to register as IDPs across the frontline (so-called line of contact) in the government-controlled areas of Donetska and Luhanska to be able to access and withdraw their pensions and social assistance payments, before travelling back home. The majority of results from this origin displayed strong statistical significance, meaning that it can be concluded with a high degree of certainty that being a member of these groups had a positive effect on remaining in this area. By contrast, being 'able-bodied and working age' or 'male' increased the likelihood that an IDP moved out of the Donbas region, containing the war-ravaged Donetska and Luhanska. The negative impact that being male had on being located in the Donbas and neighbouring regions met with the prior expectation that it might be more dangerous for men to stay in a war zone, given they were often exposed to war violence and military conscription. This is the same as saying that the utility for males of staying in the Donbas region during the Russo-Ukrainian war is low. To sum up, the contrast between being 'disabled', a 'pensioner', a 'child', and 'female' versus being a 'male' IDP from the Donbas continues to suggest the importance of group membership in the decision to remain or leave the region, as a whole.

## (ii) The impact of destination-specific attributes

As well as studying how individual's migration decisions were impacted by an IDP's sex and other characteristics, the Ukrainian case allows us to study the role of a traditional 'gravity' variable—distance—in situations where migration was driven not by economic decisions, but by political necessity. In studying the impact of distance, both in terms of kilometres and in minutes, it is not only important to control for the effect of bilateral distance to destination region, but also important to control for the effect of distance to other potential destination regions. The logic behind the inclusion of these 'multilateral resistance' terms can be seen when considering that migration decisions are not made

on the basis of the absolute attractiveness of a particular destination but, instead, they are made on the basis of a region's attractiveness relative to other potential choices.

Examining the model specification laid out in [Online Appendix 1](#), it can be seen that the model achieves this multilateral resistance term by including the destination attributes for alternative destinations in the denominator of each destination choice model. Where the individual characteristics for alternative destinations drop out of the model specification due to the indicator variable,  $D_i$ , which is equal to 0 when that particular destination is not chosen, the destination attributes are retained even when their destination is not chosen. This means that a set of parameters is estimated for each destination choice model which includes the effect of attribute for alternative destinations on bilateral migration to a particular region chosen.

Initially, we have looked at the bilateral and multilateral resistance terms for distance measured in kilometres and in minutes of travel time by car. At the time of writing, no regular public transport by rail, coach, or air was operating between Ukraine's Russian-occupied territories and the rest of Ukraine; hence, car travel time estimates were used as a proxy for generic travel time (see [Online Appendix 2, Tables A.3–A.6](#); the bilateral terms of interest are shown in bold on the diagonal of each table). While the multilateral resistance terms were included in the model primarily as control variables, they were also included in the off-diagonal of the tables. At first, the results for distance measured in kilometres fitted the classic result of gravity that distance is an important determinant of migration, though only for one set of IDPs. Examining the significance of the estimated impacts, the kilometre measures of distance displayed a low level of statistical significance for Crimean IDPs, with most parameters being significant at the 0.05 level; noticeably, the impact of distance in kilometres on Crimean IDPs matched the standard result of the gravity literature, for relative distance had a negative impact on migration flows. IDPs from the Crimea were less likely to migrate to destinations that were relatively far away, while IDPs from the Donbas were more likely to migrate to these destinations. However, the statistical significance of the bilateral results for Crimean IDPs was very low, and the results for IDPs from the Donbas did not even show this level of significance. This was repeated for the results for the impact of distance measured in minutes taken to travel to a destination: while IDPs from both regions were shown to opt for destinations that took relatively less time to journey to, the results were once again statistically insignificant. Thus, the impact of distance on Ukraine's IDP flows during the first—pre-2022—wave of forced displacement was negligible. Furthermore, for Donbas IDPs, not a single parameter of the estimated impacts of distance (in either kilometres or minutes) on migration flows had any significance.

Turning next to the impact of the regional support for Russian influence in Ukraine on forced displacement patterns, the results showed that the reaction had differed depending on whether IDPs originated from the Crimea or from the Donbas (see [Online Appendix 2, Tables A.7–A.8](#)). For IDPs migrating from the Crimea, a stronger support for President Yanukovich in the previous election had made it more likely that an IDP would choose to settle there. However, the picture was flipped for IDPs originating from the Donbas, where the results showed that the region's support for Yanukovich had had a negative impact on an IDP's choice of destination. The multilateral terms showed that this was true of the support of the region for Yanukovich, relative to other regions. Both sets of bilateral and multilateral coefficients for Crimean and Donbas IDPs were highly significant. To note, given the purely ideological nature of forced displacement

of Ukrainians from the Russian-occupied Crimea, the impact of a strong support for President Yanukovich on these IDPs' destination was irreconcilable with other pieces of evidence available to date (see [Charron, 2020](#); [Sereda, 2020](#)). Multicollinearity issues might be at play here, overlapping with the GDP and population size variables of destination regions. Furthermore, given neither of the two candidates won an absolute majority during the run-off vote, with Yanukovich gathering 48.95 per cent and Tymoshenko 45.47 per cent, the 9-destination economic regions used in this paper may not be the optimal administrative-territorial division as far as Ukraine's electoral geography is concerned (cf. [Mykhnenko, 2009](#)).

GDP is another classic gravity variable which is often included in economic migration studies. The standard result that migrants are attracted to economically prominent destinations was upheld in this paper for Crimean IDPs, even when the forced displacement was not driven by economic concerns. Crimea-origin IDP results displayed a very high amount of statistical significance. Among IDPs originating from the Donbas, the picture changed: the results showed a negative relationship, meaning that the Donbas-origin IDPs were less likely to travel to regions with a relatively large GDP. To add, this result was not statistically significant at any confidence level (cf. [Online Appendix 2, Tables A.7 and A.8](#)). This means that GDP could not be concluded to have influenced these IDPs either way, a result suggesting that the Donbas IDPs' destination choices were made using criteria other than the state of the destination's economy. At the same time, the impact of population size for the 9-destination results moved closer to the traditional gravity migration outcomes. Results from both sets of IDPs showed them to opt for areas with a relatively large population, although in the case of IDPs from the Donbas, the results were not statistically significant. Along with the results for GDP's impact, a picture, therefore, became clearer that IDPs originating from the Crimea displayed the more traditional gravity traits in migratory behaviour, being attracted to both the economic and population size of destination regions. On the other hand, the IDPs from Donetska and Luhanska did not follow the traditional gravity movements, showing no significant relationship between their choices and the GDP or population size of their destination.

Regional openness to IDPs, measured by the degree to which regional government websites focused on information for IDPs, was surprisingly found to have had a negative impact on migrants settling in a region, at least in the case of IDPs from Crimea, which showed a statistically significant relationship at the 0.001 level. The relationship for Donbas-origin IDPs was not statistically significant at the 0.05 level. These results appear to indicate that the greater the openness of a region to IDPs, the less likely a migrant was to choose to migrate to that region, and the greater the openness of alternative destinations, the more likely a migrant was to choose the region. This is possibly not truly reflective of the causal impact of openness. Instead, it is most likely that regions that already had a large number of IDPs choosing to migrate there did not feel the need to welcome IDPs online by showcasing some specific IDP aid programmes (see [Online Appendix 2, Tables A.13 and A.14](#)).

Finally, the paper tested how both sets of IDPs reacted to whether a destination had had a high proportion of population with Russian as a mother tongue, believed to be a much stronger identity marker than one's inherited ethnicity (*natsional'nist*). Both sets of results clearly indicated a negative relationship, with the variables showing that as a region's native Russian-speaking population increased, relative to other destinations,

it became less attractive for the Crimea- and, especially, Donbas-origin IDPs. All estimated parameters showed a large degree of statistical significance at the 0.001 level (see [Online Appendix 2, Table A.15 and A.16](#)).

### **(iii) Understanding the first wave of forced internal displacement in Ukraine**

The quantitative methods-based analysis of the first wave of Ukraine's forced displacement undertaken in this paper has produced four major findings.

First, individual characteristics of the internally displaced population had a profound impact on their migration behaviour. For example, the elderly pensioners and the disabled groups of forcefully displaced Ukrainians were found to be much more likely to be located near home in the Donbas region relative to working-age male IDPs. The low-intensity nature of Russo-Ukrainian warfare in the Donbas, which followed the initial brutal armed conflict phase of June 2014–February 2015, provided the large proportion of Ukrainian IDPs with an opportunity not to travel too far from home. In many instances, Donbas pensioners simply registered as IDPs on the government-controlled areas of Donetska and Luhanska, regularly travelling to-and-fro across the line of contact to access their Ukrainian pensions.

Second, during the observed 8-year period prior to the full-scale Russian invasion of Ukraine on 24 February 2022, the migration behaviour of the people being forcefully displaced by armed hostilities in the Donbas differed dramatically from those having to escape from the Russian-occupied Crimean peninsula. Migration behaviour of the IDPs originating from the relatively calm Crimea was found to be very much in line with the 'normal' economic migration behaviour predicted by traditional gravity models. By contrast, Donbas-origin IDPs, as a whole, behaved in a way that was much less predictable, with the distance *to* or the level of prosperity *in* a destination region playing no role in their migration decision-making.

The third major finding here is that the core gravity model variables of travel distance and the size of the destination region, both in terms of its population and economic output, explained the 'normal' migration behaviour very well: Ukrainian IDPs from the Crimea were less likely to migrate to destinations that were relatively far away, and much more likely to migrate to destinations with large economic and labour market potential. Conversely, when looking at the effects of distance, GDP, or population size on a potential choice destination for Donbas-origin IDPs, the standard gravity expectations did not hold. By contrast, politics, especially Russia-oriented variables, played the decisive role in determining the migration behaviour of the IDPs escaping the exogenous armed conflict.

This final key finding highlights the impact on the Ukrainian IDP behaviour of a destination's voting for President Yanukovich and the region's predisposition towards Russian influence in Ukraine. A weak Yanukovich vote and a relatively low concentration of Russian speakers in a given destination were found to be the strongest determinants of the migration flow of IDPs from the Donbas. Both variables—support for Yanukovich presidency and a region's population with Russian as a mother tongue—showed a strong negative relationship with Donbas-origin IDPs being attracted to such regions, relative to alternative destinations.



## VI. Policy implications

Four key policy lessons can be drawn from this study of the first wave of forced internal displacement in Ukraine for today's multiple refugee crises across the world. First of all, individual specific characteristics of forced migrants are vital for one's understanding of internal and cross-border displacement patterns. Whether being faced with severe travel restrictions or not, the behaviour of working (and conscription) age able-bodied men is profoundly different from that of women, especially in the context of an armed conflict. The expected utility that women, the disabled, and old-age pensioners, on average, obtain from moving or staying is very different from men's motivation. The escalation of the Russian-Ukrainian war on 24 February 2022 has caused an avalanche of civilian casualties and a large-scale destruction of civilian infrastructure, while Ukraine's forced displacement and humanitarian needs continue to grow exponentially. Thus, it should not be surprising that 90 per cent of 5.4 million people who have fled Ukraine since the Russian invasion are female. At the same time, the sex composition of Ukraine's 7.7 million IDPs, staying within the national borders today, are much more balanced, with women and girls accounting for 54 per cent (UNHCR, 2022b). In this context, the efforts of refugee-hosting countries must be gender-sensitive and fully cognisant of the overwhelmingly female and adolescent demographics of the Ukrainian refugees. Child-care facilities, primary and secondary schools, and post-education training needs, in addition to housing and income support for single mothers, must come at the top of the most pressing priorities for the host nations and communities across Europe.

Furthermore, this paper has demonstrated that Ukraine's first wave of forced internal displacement did not really abate during the 8 years since February 2014, prior to the arrival of the second wave in late February 2022. Even after the most violent armed clashes in eastern Ukraine had ceased by the spring of 2015, well over 80 per cent of the IDPs did not return home. The protracted nature of this phenomenon points to the second broad policy lesson: return is only possible after a fundamental shift in the political situation involving the forced migrants' home communities, including peace and restoration of the legitimate democratic government authority. Thus, unless and until the Russian-Ukrainian war ends on the terms favourable to induce the voluntary return of millions of Ukrainian refugees back home, permanent resettlement and full integration within the host community offer the only durable solutions.

The third policy lesson to learn here concerns the impact of the level of (indiscriminate) violence forcing the displacement on the forced migrants' location selection and their willingness to travel a longer distance. In the extraordinary 'abnormal' circumstances of large-scale warfare, life-saving action takes precedence over any other motivations. Creating as long a distance between oneself and the war zone as possible most often becomes the primary migration goal, while staying near one's war-ravaged homeland endangers the forced migrants' personal and family safety, health, and well-being. In this context, the UN Refugee Agency's planning figures currently project the Ukrainian refugee population to reach 8.3 million by December 2022, with around half transiting farther through the neighbouring central and eastern European countries, and moving further beyond (UNHCR, 2022b). Thus, these projected refugee population figures must draw the attention to the monumental challenges ahead, not only for the neighbouring governments and European policy-makers, but also for the international donors and national governments across the world. The policy implication



here is that Ukraine's protracted forced displacement is fast becoming a global humanitarian emergency.

Finally, this paper has not found convincing evidence of the forced migrants' self-selection into assistance programmes: the existence of well-advertised regional programmes that offer help to the displaced population has not had any positive effect on the target audience's destination choice. By contrast, we have firmly recognized the role of international politics—in particular, the host communities' perceived attitude towards Russia and Russian influence—as the second most significant factor determining the Ukrainian forced migrants' direction of travel. Hence, notwithstanding the level of generosity that a particular foreign government might offer to the Ukrainians fleeing the Russian invasion, it is the level of anti-Russian feelings and/or pro-Ukrainian sympathy in the host communities that would determine the choice of destination, long-term.

## References

- Anderson, J. E. (1979), 'A Theoretical Foundation for the Gravity Equation', *The American Economic Review*, **69**(1), 106–16.
- (2011), 'The Gravity Model', *Annual Review in Economics*, **3**(1), 133–60.
- van Wincoop, E. (2003), 'Gravity with Gravitas', *American Economic Review*, **93**, 170–92.
- (2004), 'Trade Costs', *Journal of Economic Literature*, **42**(3), 691–751.
- Beine, M., Bertoli, S., and Fernández-Huertas Moraga, J. (2016), 'A Practitioners' Guide to Gravity Models of International Migration', *World Economy*, **39**(4), 496–512.
- Charron, A. (2020), '"Somehow, We Cannot Accept It": Drivers of Internal Displacement from Crimea and the Forced/Voluntary Migration Binary', *Europe-Asia Studies*, **72**(3), 432–54.
- Derzhkomstat (2004), *Zainiate naselennia Ukrainy: Naselennia, zainiate ekonomichnoyu diyal'nistyu, za statusom zainyatosti za danymy Vseurkains'koho perepysu naselennia 2001 roku*, Kyiv, Derzhavnyi Komitet Statystyky Ukrainy.
- Fransen, S., Ruiz, I., and Vargas-Silva, C. (2017), 'Return Migration and Economic Outcomes in the Conflict Context', *World Development*, **95**, 196–210.
- McFadden, D. (1974), 'Conditional Logit Analysis of Qualitative Choice Behavior', in P. Zarembka (ed.), *Frontiers of Econometrics*, New York, Academic Press, 105–42.
- Mykhnenko, V. (2009), 'Class Voting and the Orange Revolution: A Cultural Political Economy Perspective on Ukraine's Electoral Geography', *Journal of Communist Studies and Transition Politics*, **25**(2–3), 278–96.
- (2011), *The Political Economy of Post-Communism: The Donbas and Upper Silesia in Transition*, Saarbrücken, LAP Lambert Academic Publishing
- (2020), 'Causes and Consequences of the War in Eastern Ukraine: An Economic Geography Perspective', *Europe-Asia Studies*, **72**(3), 528–60.
- OHCHR (2019), 'Report on the Human Rights Situation in Ukraine, 16 November 2018–15 February 2019', Geneva, UN Office of the High Commissioner for Human Rights.
- Ruiz, I., and Vargas-Silva, C. (2013), 'The Economics of Forced Migration', *Journal of Developing Studies*, **49**(6), 772–84.
- (2015), 'The Labor Market Impacts of Forced Migration', *American Economic Review*, **105**(5), 581–6.
- (2016), 'The Labour Market Consequences of Hosting Refugees', *Journal of Economic Geography*, **16**(3), 667–94.
- (2018a), 'Differences in Labour Market Outcomes between Natives, Refugees and Other Migrants in the UK', *Journal of Economic Geography*, **18**(4), 855–85.
- (2018b), 'The Impact of Hosting Refugees on the Intra-household Allocation of Tasks: A Gender Perspective', *Review of Development Economics*, **22**, 1461–88.

- Sereda, V. (2020), “‘Social Distancing’ and Hierarchies of Belonging: The Case of Displaced Population from Donbas and Crimea”, *Europe–Asia Studies*, 72(3), 404–31.
- Tobler, W. R. (1970), ‘A Computer Movie Simulating Urban Growth in the Detroit Region’, *Economic Geography*, 46(Supplement), 234–40.
- TsVK (2010), ‘Vybery Prezidenta Ukrainy’, Kyiv, Tsentral’na Vyborcha Komisiia Ukrainy, Central Electoral Commission of Ukraine, <https://www.cvk.gov.ua/pls/vp2010/WP0011.html> [accessed 28 April 2022].
- UMSP (2016–22), ‘Vnutrishnio peremishcheni osoby: Oblikovano’, Kyiv, Ukraine Ministry of Social Policy, <https://www.msp.gov.ua/timeline/Vnutrishno-peremishcheni-osobi.html> [accessed 28 April 2022].
- (2017), ‘Informatsiia shchodo vnutrishnio peremishchenykh osiv, shcho mistytsia v Edynii informatsiinii bazi danykh pro vziatykh na oblik peremishchenykh osib stanom na 15/03/2017 roku’, The Freedom of Information Request of 20 March 2017, No. 33/0/108-17/22, Kyiv, Ukraine Ministry of Social Policy.
- (2020), ‘Kil’kist’ zareiestrovanykh VPO stanom na 13 kvitnia 2020 r’, Kyiv, Ukraine Ministry of Social Policy, <https://www.minre.gov.ua/sites/default/files/field/file/67887660-7feb-11ea-a79d-bb831afba787.xls> [accessed 28 April 2022].
- UN (2014), ‘Resolution Adopted by the General Assembly on 27 March 2014. 68/262 Territorial Integrity of Ukraine’, New York, United Nations.
- (2019), ‘Resolution Adopted by the General Assembly on 22 December 2018. 73/263 Situation of Human Rights in the Autonomous Republic of Crimea and the city of Sevastopol (Ukraine)’, New York, United Nations.
- UNHCR (2018), ‘Global Trends: Forced Displacement in 2017’, Geneva, United Nations High Commissioner for Refugees.
- (2022a), *Operational Data Portal: Ukraine Refugee Situation*, last updated 27 April 2022, Geneva, United Nations High Commissioner for Refugees, <https://data2.unhcr.org/en/situations/ukraine> [accessed 28 April 2022].
- (2022b), ‘Ukraine Regional Refugee Response Plan and Flash Appeal Summary—April 2022’, Geneva, United Nations High Commissioner for Refugees, <https://data2.unhcr.org/en/documents/download/92258> [accessed 28 April 2022].
- UNOCHA (2015), ‘Ukraine: Situation Report No. 28 as of 20 February 2015’, New York, UN Office for the Coordination of Humanitarian Affairs.
- (2017), ‘Ukraine 2018 Humanitarian Needs Overview’, New York, UN Office for the Coordination of Humanitarian Affairs.
- UNOCHA *et al.* (2022), ‘Ukraine IDP Situation Overview—as of 17 March 2022’, New York, UN Office for the Coordination of Humanitarian Affairs, International Organization for Migration, REACH Initiative, UN High Commissioner for Refugees, <https://reliefweb.int/map/ukraine/ukraine-idp-situation-overview-17-march-2022> [accessed 28 April 2022].
- USSS (2022), *Statystychna informatsiia*, Kyiv, Ukraine State Statistical Service, <http://www.ukrstat.gov.ua/> [accessed 28 April 2022].